REMARKS

In the Official Action mailed on **3 October 2006** the Examiner reviewed Claims 1-21. Claims 1-21 were rejected under 35 U.S.C. §102(b) as being anticipated by Santhanam (USPN 5,704,053, hereinafter "Santhanam.

Rejections under 35 U.S.C. §102(b)

Independent claims 1-21 were rejected as being anticipated by Santhanam. Applicant respectfully points out that, as observed by the examiner, Santhanam teaches using "simple subscript analysis to determine data prefetching requirements." In addition, Santhanam also discloses exploiting execution profiles from previous application runs, as well as cache line reuse patterns across loop iterations, in making the prefetch determination (see Santhanam, col. 3, lines 50-65).

In contrast, Applicant respectfully submits that the present invention teaches determining how many loop iterations ahead to prefetch for, i.e., the prefetch ahead distance, **using loop characteristics such as the stride value, the adjusted execution time for a loop, as well as processor characteristics of the system,** such as the outstanding prefetches -- which describes the number of prefetches that may be executable in parallel -- and the prefetch streams -- which describes the number of channels that connect the processor to the memory, and that are used to perform the prefetches -- (see page 15 of the instant application as well as amendments to the specification in response to Office Action dated 19 May 2006). This is beneficial because the resulting prefetch ahead distance, calculated as taught in the instant application, describes a more accurate metric for optimizing prefetching, one that takes not only loop characteristics (as disclosed by Santhanam), but also system processor characteristics that influence the performance considerably.

There is nothing within Santhanam, either explicit or implicit, which suggests determining a metric that employs both code as well as system characteristics.

Accordingly, Applicant has amended independent claims 1, 8, and 15 to clarify that the present invention determines the number of loop iterations ahead to prefetch for, i.e., the prefetch ahead distance employing both loop as well as system characteristics. These amendments find support on page 15 of the instant application.

Hence, Applicant respectfully submits that independent claims 1, 8, and 15 as presently amended are in condition for allowance. Applicant also submits that claims 2-7, which depend upon claim 1, claims 9-14, which depend upon claim 8, and claims 16-21, which depend upon claim 15, are for the same reasons in condition for allowance and for reasons of the unique combinations recited in such claims.

CONCLUSION

It is submitted that the present application is presently in form for allowance. Such action is respectfully requested.

Respectfully submitted,

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